

Work Order ID 134873

Wednesday, July 22, 2015 4:14:31 PM

134873

Page 1

Item ID: D2939-2 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle RH In, 206
 Start Date: 7/22/15 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 7/22/15 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: MLS Date: JUL 23 2015 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2939	Rev C								

100
100
 HAAS 1
 HAAS CNC vertical machine #1
 HAAS CNC VERTICAL MACHINING #1
 Memo
 Program part number and batch number.1-Inspect part number and batch number are programmed correctly.2-Machine Step No 1 of Folio and visually inspect as per dwg D2939 & attached Dimension Sheet 3-Machine Step No 2 of Folio and visually inspect as per
 0.01
 0.06
 4 0
 DAS 40 9-89
 15/08/12

110
110
 Mill Conv
 Conventional Milling Machine
 CONVENTIONAL MILLING MACHINE
 Memo
 Machine Keyway and inspect per attached dimension sheet
 0.00
 0.00
 4 0
 DAS 40 9-89
 15/08/12

120
120
 QC
 Quality Control
~~QC1- Inspection performed by CMM~~
~~QC2- Second Check~~
 Memo
 QC2-Inspect parts off Machine FAT/FAIB
 0.00
 0.00
 4 0
 DAS 40 9-89
 15/08/12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☒ Operator ☒ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☒ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

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Wednesday, July 22, 2015 4:14:31 PM

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							DAS 44 9-89
130						4	Ø		15/08/12
QC	Memo	0.00							
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140						4	Ø		15/08/13
HandFinish	Memo	0.01							
Hand Finishing									
150	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
150	NL131545								
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 11:12am FINISH TIME: 11:45am								
	OVEN TEMPERATURE: 370°C								
						4	x		16/08/12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Wednesday, July 22, 2015 4:14:31 PM

Item ID: D2939-2

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Saddle RH In, 206

Stop *NS2*

Start Date: 7/22/15 **Start Qty:** 4.00

4

Cust Item ID:

Required Date: 7/22/15 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
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Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																				
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Past Expiry Date ☐	Manufacturing Process ☐																								
Misidentified ☐	Past Due ☐																								
		OTHER :																							

Picklist Print

Wednesday, July 22, 2015 4:14:30 PM

Page 1

Work Order ID: 134873

134873

Parent Item: D2939-2

D2939-2

Parent Item Name: Saddle RH In, 206

Start Date: 7/22/15

Required Date: 7/22/15

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP: B 00.06.26 New DWG rev (mpp 2069)EC
IPP Rev:C As per Rev C 07-03-19 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001		Manufactured	No			100	Each	47.0000	1	4			
D6101-001									**			15/08/12	DAS 40
Saddle Billet													9-89

Location

Loc Qty

Loc Code

MAT042

47

P 129986

7

132708

40

4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
☐ OTHER : _____					

DART AEROSPACE LTD				Work Order: 134873	
Description: 206 Saddle, Inboard, Right side				Part Number: D2939-2	
Inspection Dwg: D2939 Rev: C DSK: Rev:				Page 1 of 1	

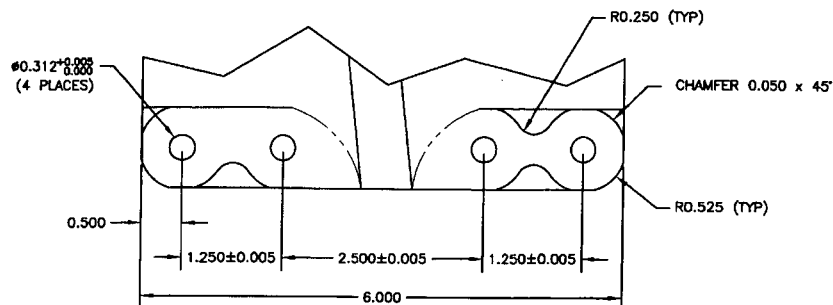
FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article
 ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	5
A	0.100	0.140		.122	.120	.118	.117	
B	0.100	0.140		.122	.117	.116	.117	
C	0.100	0.140		.124	.119	.120	.122	
D	0.210	0.230		.227	.229	.226	.226	
E	1.245	1.255		1.250	1.250	1.250	1.250	
F	1.245	1.255		1.250	1.250	1.250	1.250	
G	2.495	2.505		2.500	2.500	2.500	2.500	
H	0.510	0.515		.511	.511	.511	.511	
I	1.572	1.582		1.577	1.577	1.577	1.577	
J	2.495	2.505		2.500	2.500	2.500	2.500	
K	0.257	0.262		.258	.258	.258	.258	
L	0.312	0.317		.314	.314	.314	.314	
M	0.235	0.240		.239	.237	.237	.237	
N	0.100	0.140		.125	.126	.124	.123	
O	0.540	0.560		.547	.552	.550	.550	
P	0.490	0.510		.497	.501	.500	.502	
Q	3.715	3.725		3.720	3.720	3.720	3.720	
R	2.720	2.760		2.740	2.740	2.740	2.740	
S	0.240	0.270		.257	.254	.255	.255	
T	0.100	0.180		.146	.140	.140	.140	
U	1.625	1.635		1.630	1.630	1.630	1.630	
V	1.362	1.372		1.367	1.367	1.367	1.367	
W	0.316	0.321		.316	.316	.316	.316	
X	1.250	1.270		1.261	1.2625	1.2600	1.2590	
Y	1.565	1.585		1.5749	1.5730	1.5755	1.5762	
Z	0.178	0.198		.188	.188	.188	.188	
AA								
AB								
AC								
AD								
Accept/Reject								

Measured by:	9-89	Date:	15/08/12
Audited by:	FK	Date:	15/08/12
Prototype Approval:	N/A	Date:	N/A

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Re-format; Added Dim. X-Y, DT8683, DT8686, DT8690 & DT8695 A/B	KJ/RF	
C	07.03.21	Revised per drawing revision C	KJ/JLM	
D	07.11.23	DT8695 A/B removed	KJ/EC/DD	

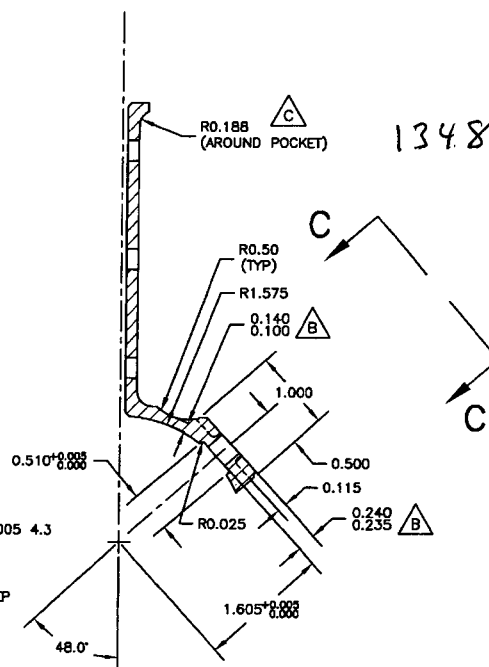


VIEW C-C

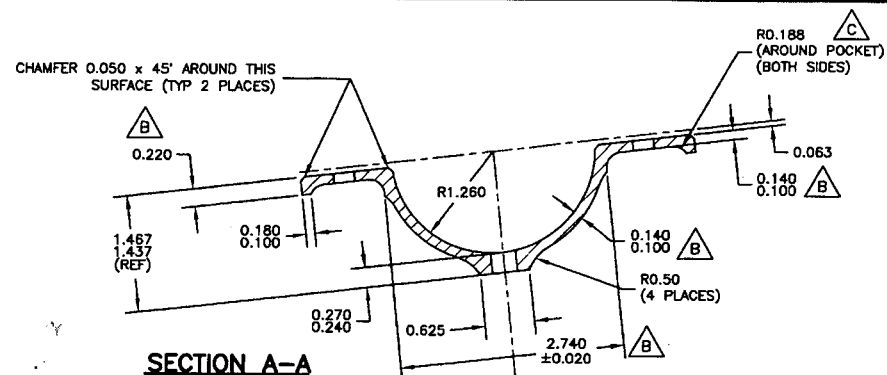
D2939-1 LH SADDLE (SHOWN)
D2939-2 RH SADDLE (OPPOSITE)

NOTES:

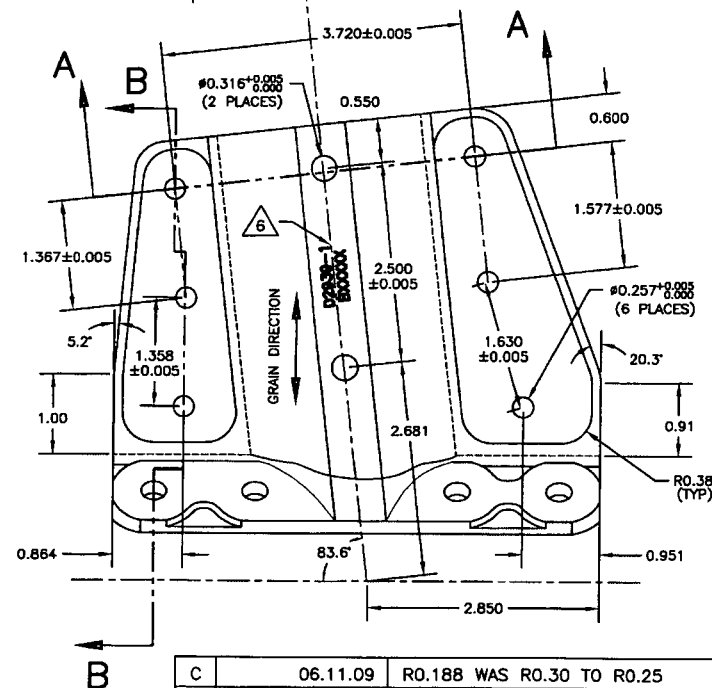
- 1) MATERIAL: ALUMINUM 7075-T7351 (QQ-A-250/12)
(MAKE FROM D6101-001 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE INCHES
- 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA 0.010 TO 0.015 DEEP



SECTION B-B



SECTION A-A



C	06.11.09	R0.188 WAS R0.30 TO R0.25
B	00.05.29	CHANGED DEOMETRY AND MATERIAL
A	99.11.12	NEW ISSUE
DESIGN	CB	DART DART AEROSPACE USA, INC. BELLVILLE, WA
CHECKED	PH	DRAWING NO. D2939
DATE	06.11.09	TITLE SADDLE INSIDE
REV. C		SHEET 1 OF 1
SCALE		2:3

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07.02.12